

Impact of an integrated pharmacy service on hospital admission costs



Summation of a Publication around the work of the Northumberland Vanguard

Full Paper by Wasim Baqir, Andrea Stoker, Emma Morris, Rachel McWhir, Helen Ridley, Scott Barrett, Richard Copeland, Robin Hudson, Steven Barrett, Jacqueline Ballantyne and David Campbell

The Northumberland Vanguard model of care has pharmacists and technicians working in both hospital and primary care settings, and based in geographical hubs. Each team is part of a wider enhanced care team including community nursing, social care and general practice. The model stratifies patients from low to high need for support with medicines, and a range of clinical pharmacy services are provided to improve patient care and outcomes while reducing costs and hospital admissions/readmissions. The care home model ensures rapid follow-up and support for new and discharged residents, including community pharmacy reviews. Since July 2016, over 15 months, the integrated pharmacy team has made 5,124 interventions for 2,445 patients through their caseload, with an estimated 223 hospital admissions avoided. The service continues to evolve and is currently being scaled and further evaluated. The full article details the Northumberland Vanguard model of care and how it has benefitted patients. It can be found at <https://www.pharmaceutical-journal.com/research/perspective-article/impact-of-an-integrated-pharmacy-service-on-hospital-admission-costs/20204550.article>

Introduction

The increasing demand in healthcare, urgent care and emergency care; the increasing numbers of frail elderly, in particular the care home population; increasing polypharmacy associated with comorbidities and evidence-based medicine protocols; along with increasing workforce pressures and demand for primary medical care services mean a new approach to the use of pharmacy services is required. Recent developments within Northumberland, has seen a shift from silo-based working to a more integrated, professional, team-based approach that operates across organisational boundaries, working with other healthcare professionals and the patient at the centre of it all. It is envisaged that this fully integrated pharmacy service will improve patient care, reduce harm and increase efficiency using a sustainable model of care. Over the past 15 years, the pharmacy profession has primarily evolved in three sectors: *community pharmacy*, *hospital pharmacy* and *primary care*. On the whole, these three sectors have developed independently with little influence from each other.

Development of the integrated pharmacy team

The lead partners in the Northumberland Vanguard are: Northumbria Healthcare NHS Foundation Trust, NHS Northumberland CCG and Northumberland County Council.

The purpose of the Northumberland Vanguard programme was to generate new clinical models to improve patient care and outcomes while reducing cost, accident and emergency attendances, and hospital admissions and readmissions. All Vanguard interventions were required to realise one or more of those indicators. The Vanguard focused particularly on service integration and examined new potential workforce models, including pharmacy, in order to come up with solutions to address the needs of its population and potential workforce shortages. Teams were asked to 'think across the system' and not in silos, as had been the case previously. The Northumberland Vanguard model of care provided the impetus to think differently about how pharmacists and pharmacy technicians could work across the three sectors of community, hospital and primary care.

Primary care pharmacy is most often based around the general medical practice, with each practice receiving a quota of pharmacy time. The Northumberland Vanguard approach adopted a community nursing model, where the pharmacy teams are based in geographical hubs the first being set up in Blyth, where the new team's potential to provide clinical services to patients was tested. The team was co-located with other healthcare professionals (i.e. community nursing, general medical practitioners, social care).

The Northumberland Vanguard pharmacy service has spread from Blyth to three other hubs, with each hub being led by senior clinical pharmacists, specialist pharmacists and technicians. Importantly, each team is part of the wider enhanced care team at each hub: community nursing, social care and general practice. The teams work across traditional organisational barriers, have access to clinical systems from primary, secondary and social care, and provide seamless care for patients. A directory of services ensures that all pharmacist and pharmacy contact details are available to the wider team, enabling enhanced conversations about patients.

The key findings of this evaluation demonstrated that pharmacists were able to successfully develop their foundation practice while rotating across care settings. Social media was a key component for developing a professional network and informed the boundaries of practice. It is envisaged that these pharmacists will develop quickly into advanced generalists supporting patients with complex medicines needs. The team collects information on every intervention made to each patient using a specially constructed database. This has allowed the models to be tested against the Vanguard metrics and key performance indicators, supporting service development and ensuring sustainability.

Development of the integrated pharmacy pathway

Pharmacy has historically developed in a fragmented way, with assumptions being made about the effectiveness of service provision. A truly patient-centred approach starts with considering the needs and wishes of the patient. Most patients can manage their medicines on a day-to-day basis, and only occasionally need support. For a variety of reasons (e.g. frailty, learning disabilities) there will be a cohort of patients who have a greater need for medicines support. The Northumberland Vanguard model (see Figure 1) stratifies patients from low to high need for support with medicines, and within that model there is a role for all the previously fragmented pharmacy services to work differently together to support and clinically manage patients.

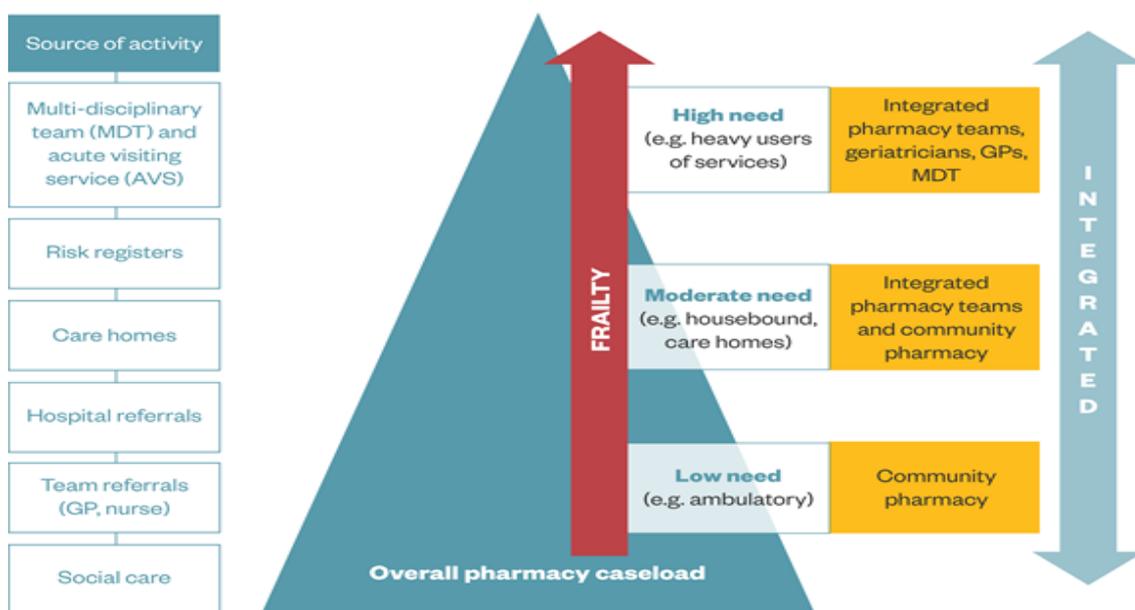


Figure 1: The Northumberland Vanguard Model: stratifying patients according to need

The Northumberland model recognises the role of pharmacy professionals across the system and across organisations. Having stratified patients according to support needed with medicines, a clinical model to meet those needs was developed.

The drivers for change are to improve quality and safety with medicines; improve quality of care and patient experience; use the best skill mix; and increase capacity in the system

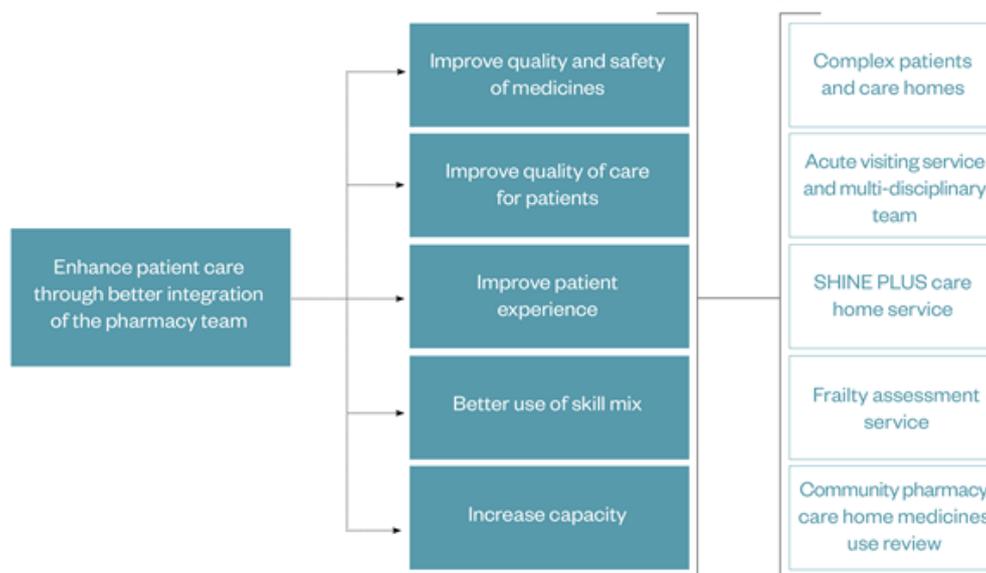


Figure 2: Integrated pharmacy service: drivers for care

Integrating within the health and social care team

Northumberland has a highly integrated health and social care system and the Vanguard programme allowed pharmacy to better integrate into this system. It was quickly recognised that to get the best from an integrated pharmacy team, the team had to work in a coordinated way with all the other healthcare professionals. The development of good relationships with the wider team was a priority when the new teams became hub-based; these new working relationships were an essential precursor to identifying and changing the way that care is provided to patients.

Examples of new ways of working resulting from this more integrated model include:

- It is envisaged that 86% of general practices will be using a single clinical system, accessed by the wider enhanced care team, including pharmacy. Hospital pharmacists can now have read/write access to GP clinical systems, so changes to medicines can be recorded accurately in real time at the time of patient discharge;
- With a better understanding of the whole health and social care system, patients can now be transitioned between settings more effectively in the knowledge that their care will be picked up by another member of the same extended team. Patients can also now be more effectively referred by social services teams to members of the associated and local healthcare team for appropriate support and/or intervention;
- An Acute Visiting Support Service has been developed where patients needing a home visit can be sent the most appropriate practitioner, including a pharmacist;
- The MDT can now proactively find, assess and plan for patients who may need enhanced support. As part of this team, the pharmacy team adds patients with medicines-related issues to their caseload, which allows for better working with patients;
- Clinical follow-up and handover when patients leave hospital has improved. Rather than delaying a patient's discharge with often important, but not urgent, changes to medicine therapy, the team can refer the patients to have these changes undertaken at home, thereby improving hospital flow;
- Many patients have memory problems or a confirmed diagnosis of dementia. It can provide comfort and reassurance to them and their carers that they can often see the same healthcare professionals at various stages of their care pathway. As part of the integrated Vanguard model, patients are often encountered on admission to a hospital, supported through acute admission and rehabilitation within the community hospital setting, and are then supported with monitoring after discharge;

- Residents in care homes are stratified into high, moderate and low need for medicines support. High-need residents are supported through a consultant-led geriatrician care home service proactively reviews high-risk older patients and is supported by community matrons, care home nurses and the pharmacy team. This integrated approach has ensured the most vulnerable patients are seen in a timely manner. Patients with moderate needs are usually seen by the pharmacy technician, who can escalate care to the pharmacist or the MDT;
- Every care home in Northumberland is linked to a community pharmacy, which is responsible for the supply of medicines to that care home. The model allows community pharmacists to undertake medication reviews for the care home residents they currently dispense for (MUR payments do not cover care homes). They are supported clinically and can escalate care to the Vanguard team for more complex patients (see Figure 1);
- Traditionally, care home medicines reviews are undertaken on a home-by-home basis where a care home may not be revisited very frequently (resources dependent). The care model aims to see every new resident for medicines review and every newly discharged resident for technician follow-up (Northumberland NHS SHINE PLUS). This ensures rapid follow-up and support for residents and care home staff.

These, among other initiatives, have helped demonstrate the value of being included as part of the MDT across primary and secondary care settings, which enable patients to get maximal benefit from their medicines while maintaining the highest levels of safety.

The future of the Northumberland integrated model

The service continues to evolve as the full benefits of the integrated model are tested, understood and developed. All the developments described are currently being scaled or otherwise further evaluated for sustainability.

Although the Vanguard framework and funding promoted a common focus on managing people with complex health needs in the community with less reliance on hospital admissions, this collective goal already existed among the health and social care partners in Northumberland. The integrated pharmacy working model developed from previous successes working in care homes and general practices and a vision to optimise medicines wherever patients present.

Integrated working does pose challenges for training and workforce development. Recognising that the team are developing to meet future service needs is important to this and support from the senior pharmacy team to balance the needs of all sectors is vital. The perceived uncertainty of whether working within an integrated team will have a negative impact on future career opportunities is hopefully dispelled, but organisations looking to replicate should recognise the benefits from integrated working for all job roles and plan accordingly.

Interventional data and metrics have supported roll-out of the integrated team, but through positioning a pharmacy team within a wider service it is difficult to isolate single-service contributions to significant outcomes. Given the potential for subjectivity within the RIO scoring system, 'possible' admissions avoided can be viewed with scepticism.

In general practice, although skill mixing is regularly used, prior to this most decisions were made by the GP independently as their role demanded. As a result, inter-professional differences can still be a barrier where the relationships have not yet been developed. However, the solution is to demonstrate that the skills within the integrated pharmacy team complement GPs and the primary care workforce, which ultimately leads to better care for patients.

As the service expands in scale and scope, so will the opportunities to do more by skill mixing within the pharmacy team, making full use of the available and future pharmacy technical workforce. The Vanguard pharmacy team already utilises the skills of the pharmacy technicians who work within it, but the opportunities to do more and, at scale, appear boundless.